

Supplementary Material A: Multiple sequence alignment of marsupial CD4, CD8 β , IFN γ , IL-4, IL-6, IL-10, and GAPDH. Boxed sequences are qPCR primers. GenBank accession numbers are listed in Table 1.

CD4

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Phci CD4  GTGTTCAAGGTGACA[CCCAACCCAAGTGA]CTCTGTGTTCTCTGGAACCAACGTGATTTTAACTTGCACGGCTCTTCCAA : 80
Saha CD4  -----G-----A---T.A.A.A..T-----AG...A...C.....A..A..TA..C.C....G : 452
Maeu CD4  -----C-----A---A..A..T-----C.....T.....G.....A.....C..... : 712
Modo CD4  -----T-----G-----C-----G.A.....C.....T.....A..C..C.... : 714

Phci CD4  CCTTCCTGCACTCAAGGTGG[ATGGAGTGGTCCAGGAGA]CAAAAGTAAAAGGATCCTGAGTCAAGACAAGAAAACCTCTGA : 160
Saha CD4  -----G.T-----A-----T-----T-----T-----T----- : 532
Maeu CD4  -----T.T-----G-----T-----C.A.....A.....T..... : 792
Modo CD4  -----A..T..AA.A.....CA.....A.T.C.....TC.A.....CT... : 794

Phci CD4  AGTTGGTGCAAAATAGAGACCAGCGAAGGGGGTGTGTGGGAYTGTACCGTCTCTGTGAATGACAAAGCCCTGAAATTGAGC : 240
Saha CD4  .C..AA.C..T..G..C..AA.....A..A.T..T....GATA.....G...A..... : 612
Maeu CD4  .C.....A..G.G.C.A.A..AC..C.C.....TT.....G...A..A.....G... : 872
Modo CD4  .C...C.C..G.G..TT.TGAG..G.A...A.AA..AG...C..T....CA.A...G...AG...T...C... : 874

Phci CD4  ATCACAGTCACAGTGTGTTGGTTTCACATCGTCTCCTCCAGACCTTCTACATGATGACAGGCCAAACCTGCCAAATTCTCCTT : 320
Saha CD4  ....A.....A.....AC.A.....A.....TGG.....A...T.C..... : 692
Maeu CD4  ....A.....CA.....AAA..T..T.....T.C.....GTG.....G..T..G..... : 952
Modo CD4  .AA.G.....ACA.....G.CACC...A...CG..A...T.A...AG.....GA...G.....AA... : 954

Phci CD4  CCCTCTGAATTTAAACGAACAGGATCTGAACAGGGAACATCCAAA TGGAGA AACTGAGGTGGCAGGTGGAAGGTGCTGCCT : 400
Saha CD4  ....T..G.....G.....A...GA.....A.....T.C.CA.....T..... : 772
Maeu CD4  ....T..C..A..G.....T.....G.....A.CA.....CA...T..... : 1032
Modo CD4  ....A.....GG.....C..ATGGTG.....CT...C.G.....G..... : 1034

Phci CD4  CTCCCCCGGTCGGCCAAGTTTTTCATGGAAGGGTGA CTCTTTGACTCTAGAAAAGGGGGCTCCAAATTTTCAGTCGTGAT : 480
Saha CD4  ....AA.A.C.A.....A.....A.A.TAA.....G.CCA...T...AT.....AAGCG..G : 852
Maeu CD4  ....A---A.GT..T.....A.....C.....G..G..CA.AC...CC...A..... : 1109
Modo CD4  ....AAA---T.....A.....C.....C...G.CAA---TT..G...A..CT..CCA : 1109

Phci CD4  ---CCTAAGTTCCCACTCACCATCACTCTTCACTCTGCTTGCCTCAGCATGCTGGCTCAGGAGTCTT : 525
Saha CD4  AAGT...T...G..A...AT...TCC...C..... : 920
Maeu CD4  ---C...G.....TCCCT...C...TCT..... : 1174
Modo CD4  AAGG.AG.---A...TT.G.G...CTCC..A...C...TC..C..... : 1173

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CD8 β

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Phci CD8 $\beta$  1  ACCCACCAAAAAGACCACTCCCAAGAGGAGAGTATGCAATACAAC --- CCCAAAGGTCACTCAACAGAA TGGTTCCCTCT : 77
Phci CD8 $\beta$  2  -----G-----C-----G..C.GA.....AACC.T.G.T.....A.....A..A... : 77
Saha CD8 $\beta$   -----C-----G..A...CCG.....G.AACA.T..G.A.....T..T... : 554
Maeu CD8 $\beta$   -----C.A.A.....A.A.G...CCC.A..AATT...GGT.C.....AG.....C..TT... : 515
Modo CD8 $\beta$ 

Phci CD8 $\beta$  1  GCAGCGCCTTCACCCTAAGCCTGCTGGTGGGA TGTGCTGTGGTTTTGCTGATCTCCA TCA TTGTGATCA TCCGATTGAAT : 157
Phci CD8 $\beta$  2  -----A..... : 157
Saha CD8 $\beta$   .T.A.AT.C..C.T..C.....C.....G.....AC.....A.....TC.A.....C : 597
Maeu CD8 $\beta$   .T..C..C.....C.....C...TC..C.A.....A..... : 634
Modo CD8 $\beta$   .T.T.C.GCT..C.....ATCC..A.....C.A.....C.....A.....C : 595

Phci CD8 $\beta$  1  TATTTATGGA[ATGTAGCTCGGCACCACT]TTGTGAAACAGCTTCAAAGATGAGTACCCCTTCCCACTCAACCC TCCCCCA : 237
Phci CD8 $\beta$  2  -----C.....T..T.....C.....G..C.AT..C..CT----- : 237
Saha CD8 $\beta$   .C.G.....G.C...T.....G.....T.....CT...C.T..T.C----- : 708
Maeu CD8 $\beta$   .C.....C..C.G.....C..T.....AA----- : 653
Modo CD8 $\beta$ 

Phci CD8 $\beta$  1  AAAGA TAAAGTTCTTCAAATAGCCTGCCGAAGAAATGCACTGGATTTTA TATAAGCAGAA TTGGAGGAAC [GAGGCATGA] : 317
Phci CD8 $\beta$  2  -----A.....T.....G.....GC.....A...AGA...CT : 317
Saha CD8 $\beta$   .A.....C.....A...TTA.....G.....C.....A.....A...C... : 787
Maeu CD8 $\beta$   .CA.AG...T.C.....A...T.....A.....C...GC..G.....AA..TGAG...C... : 733
Modo CD8 $\beta$ 

Phci CD8 $\beta$  1  [GAACAGCAA]TGA --ACTTTTGAAATTTTCTAAGCCACTGGGGT : 359
Phci CD8 $\beta$  2  -----T.A.....TG.ACC.....C...G..... : 359
Saha CD8 $\beta$   .T.....T.....C..... : 784
Maeu CD8 $\beta$   .T.....C..... : 829
Modo CD8 $\beta$   .T...G.....ACA...C.....C..... : 775

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IFN γ

Phci IFN γ CAAGCTNCNTCTTAGCATCCTGGCTTTGTGTTATGTTGGGTT-----ATTCTCAAGCTACTATAGCAGAAGAC : 68
Saha IFN γ A . C TT C . TC . A . . CTTCTGGCTGTCT T . ACC . AG : 80
Maeu IFN γ A . C T CC G . AG : 65
Modo IFN γ T . G A . C ATTCTGGCTATGT G A . AC T : 80

Phci IFN γ CTAGGAACCTTTATGGAATACTTTTCAGAAATGGAAGTACATCATCTGATATATCTGATAATGG---GACTCTTTTCTTGAAG : 145
Saha IFN γ A . GCA CACA . C C . C . A CG A . GG . A TT TA . G : 154
Maeu IFN γ AA . T C A A : 139
Modo IFN γ G . C AC . C C GT G . G GG . A . TCG . C ACA : 157

Phci IFN γ CATGATGGATCGTTTGAAAGAGG---ATGGTGACAAGAAAAATCCTAATGAGCCAAATTGTCACAGTTTATTTCAAAAATCT : 222
Saha IFN γ A . GAC GAA . CT T TG G : 234
Maeu IFN γ C . C CA G . A : 215
Modo IFN γ A . A CA G . T T . A : 234

Phci IFN γ TTGAAATCTTCAAGAACAACACCGTCAACAAAAAAGTGTGGAGAATATCAAAGAGGATATGATCATGAAATTCCTTCACT : 302
Saha IFN γ . C A T . A . TG G A C G A TC : 314
Maeu IFN γ . C A AC G CC C C : 295
Modo IFN γ G G T . A C CC TA A A CA : 314

Phci IFN γ AACAACTGCTGCCAGCAAAGTGAATGACTTTGAAATCTGTCAACACTCAGGTGAATGACCTCAGAGTCCAAAAGAAAAGC : 382
Saha IFN γ TCT G GG . AC T . C A G : 394
Maeu IFN γ T G . G : 346
Modo IFN γ TT . A . TG . CA . A . TA GA . C TT . A G : 394

Phci IFN γ TATATTTGAACTAGCCCTTATCATGAATGACCTCTCAAACAACCTCATCTAAGAAAGAGAAAAAGAAGACAGAACANAA : 462
Saha IFN γ G T . TA . G . TT . CCG . A CCG C . GG G : 474
Modo IFN γ ATGAA C . A TC C : 474

Phci IFN γ GCCA : 466
Saha IFN γ : 478
Modo IFN γ : 478

IL-4

Phci IL-4 GTCTCACATTCCAAGTATACCAACTTTGTTCTGCCTGTTAACATGTACCAGTGATGTTGTCCAGGGACAGAGAAGGACC : 80
Maeu IL-4 C A T : 149
Modo IL-4 T A . A . A C C . TC . T . T C . A . A GG : 84

Phci IL-4 TGCCAACCCTCTCTCAGAGAGATCGTCCACATGGCAAACCTCTCTTACTATGAAAAAGTTTCCCTGCTTTGAGATGGAAGT : 160
Maeu IL-4 GA G . T . A A CT T . G : 229
Modo IL-4 AGT G . T A G TAT . TG T C CC C T C C : 164

Phci IL-4 GCCGGACATCTTTGAGGATACAGAGAAATCCAGTACTCCGAAGCTGTTTCCTGAGGAGTCAATCATGCTCTCAGCTGGTCA : 240
Maeu IL-4 A A T CG T A : 309
Modo IL-4 A AC A T . A A . T : 241

Phci IL-4 TGACAA TGAA TGACTTTGAAACATTATGCAGAGCTGTCACTGTGCTCCAACAGGTCTCCAACAGCTGCCCATTCCTAAG : 320
Maeu IL-4 C G A C : 389
Modo IL-4 G C G C G AT A A GCC : 321

Phci IL-4 CTAAGCAACA TGCTTAGGAAACCTAATGCACCTTAGTGAAATCAGACCAAAATGTCCTGTGAATGAAACCAAGATTACTAAATT : 400
Maeu IL-4 A A T T : 469
Modo IL-4 A . T A . AA A . TTT T T T : 401

Phci IL-4 GCAAGATTTTCTGAGCA : 417
Maeu IL-4 : 486
Modo IL-4 : 418

IL-6

Intron 3

Phci IL-6 AACACCTGTTTGGCTTTTAGCAAACCATTGAAGTGATGTCTCTGTTTGTCCAGATGGAAAACAAGGCAGCTGGATTTTT : 80
Modo IL-6 GT G A GC A C
Saha IL-6 TG T C G T C T C

Phci IL-6 CCAAGTCCATAGGGCCATTGGGAGGAGAAA TGAGATGATATTACAGGAGAAGCACTTTGATTTTGTAGAGGGGTAAAGG : 160
Modo IL-6 C C AT TTTA A CCT . A T CT A G CA A GG
Saha IL-6 C C AT TTTA A GT A A T A G A

Phci IL-6 AAA - - - - GGGAAAAGGAGCCATACAAGCTCTGCTTTAAAAGGTCAATTTTAAATTTTTATATAACTTTTTTCTTA : 235
Modo IL-6 AAAAT A G AG A C A G AC T TA C C G - C A
Saha IL-6 G - - - - G G A T T G AC T - A TA C - - - - C C

Phci IL-6 TGGTAACCATAATTTTTCTCTT - - - - TTTACGTAAGGAGACA T<u>GCTTGCCAAGGATTGTGA</u>GTGGTCTTCAGGAGTTT : 311
Modo IL-6 C T TTTA A AT A CA C A C
Saha IL-6 C T G A TTT - - - - A C AT ACC CA C AAA G A

Phci IL-6 GACACGTATCTTCGGTACATGGAAACAGAGATGAAGGATAA - - - - - TAAGTTACAATACCTAAGAA T<u>GGGTACAGTTCA</u> : 385
Modo IL-6 TA T AAC T G - - - - - C G T AC AGC A C TAC
Saha IL-6 GG T C A T AT C A A GAAAAGC G A CG GCA A TTC GAC

Intron 4

Phci IL-6 <u>GCTCATCCA</u>CAAACCTGAAGCTCTTGGTGAAGTTTCCCTTTGC : 426
Modo IL-6 AT AGC A CT AC G
Saha IL-6 A AGC G GTCT AAAA

IL-10

Phci IL-10 ACATGCTCCGAGAACTTCGAGCAGCCTTCAGCAACGTGAAGATCTACTTTCAAACCAGAGACAAGCTCGAAACC - - - AAA : 77
Trvu IL-10 G CA G G - - - - : 250
Saha IL-10 T T A A G GAGG . A GGT G A G AT GATTT TGTG . G : 183
Modo IL10 T G T A AG T G - - - - G : 180

Phci IL-10 TTGATAGACAAA TCTTTGCTGGAAGAA TTAAGAGTTACCTGGGCTGCCAGGCCTTGTCAAGAGATGATTCAGTTTTACCT : 157
Trvu IL-10 A : 330
Saha IL-10 T TG GC C C C AC : 263
Modo IL10 C A G C C CC CA : 260

Phci IL-10 GGAGGAAGTGATGCCTCAGGCAGAGAAGAA TGAAGTGGACATCAAAGAGAACGTGGGCTC<u>TTTAGGGCAGAAAGCTGAAGG</u> : 237
Trvu IL-10 G G C C TG G C A AT : 410
Saha IL-10 A T A G AC G GA C G T C AAA C T : 340
Modo IL10 A G G G A C G A C AT AC A : 337

Phci IL-10 CACTGAGATTGAGGCTCAAACGCTGTCA C<u>AGATTCCCTGCCCTGTGAAGA</u>TAGGAGCAGAGTTGTCAAGCAAGTCAAGAGC : 317
Trvu IL-10 C G A C C AC G G A : 490
Saha IL-10 GG AG CA AA T TC AA T CT C A A : 420
Modo IL10 TT C G CGA AG G T T GC GA : 417

Phci IL-10 ACCTATGAGAAGCTCCAGGAACAAGGAGTCTACA - - - - - : 351
Trvu IL-10 A G AAGCAA TGGGGGATTTT GACATATTCATCGGC : 556
Saha IL-10 C A A T GTA T TCT AAGCAA TGGGGGAGTTT AATATATTCATCAAC : 486
Modo IL10 AAGCTA TGGGGGATTTT GACATATTCATCAAC : 483

GAPDH

Phci GAPDH	AGTCCACTGGCGTGTTTACCACCATGGA AAAAGGCTGGGGCTCACTTGAAGGGTGGAGCCAAGAGGGTCA TCATCTCTGCC	: 80
Saha GAPDH	.....G.....T.....C.A.....A	: 400
Maeu GAPDH	.....	: 51
Modo GAPDH	.....C.C.....T.....	: 201
Phci GAPDH	CCTTCTGCTGATGCCCCAA TGTTTCGTGATGGGAGTGAACCATGAGAAA TATGATAAATTCCTTAAGATTGTCAGTAACGC	: 160
Saha GAPDH	.....C.....T.....G.....C.....C.....T.....	: 480
Maeu GAPDH	.....	: 131
Modo GAPDH	.....C.....G.....C.....C.....C.....C.....T.....	: 281
Phci GAPDH	TTCCTGCACTACCAATTGCTTGGCCCCCTGGCCAAGGTCA TTCA TGACA ACTTTGGCATTGTGGAAGGACTCATGACTA	: 240
Saha GAPDH	C.....C.....T.....T.....N.....C.....A.....C.....	: 560
Maeu GAPDH	.....C.....T.....T.....	: 211
Modo GAPDH	C.....C.....A.....C.....C.....C.....C.....	: 361
Phci GAPDH	CAGTCCATGCCATTACTGCTACCCAGAAGACAGTAGA TGGCCCCCTCTGGTAAGCTGTGGCGTGATGGGCGTGGTGTCTCC	: 320
Saha GAPDH	.....T.....C.....T.....C.....C.....C.....G.....	: 640
Maeu GAPDH	.....	: 291
Modo GAPDH	.....C.....C.....C.....G.....G.....	: 441
Phci GAPDH	CAAAACATCATCCCTGCTTCCACTGGTGCTGCTAAAGCTGTAGGCAAGGTCA TACCTGAGCTGAA TGGGAAGCTCACAGG	: 400
Saha GAPDH	.....G.....C.....G.....C.....C.....A.....A.....	: 720
Maeu GAPDH	.....G.....	: 371
Modo GAPDH	.....T.....C.....C.....C.....G.....G.....C.....C.....	: 521
Phci GAPDH	CATGGCCTTCCGTGTTTCTACTCCCAA TGTATCTGTTGTGGA TCTGACCTGCCGTCTGGAAAAACCTGCCAAAATATGATG	: 480
Saha GAPDH	.....T.....C.....C.....G.....C.....G.....C.....	: 800
Maeu GAPDH	.....C.....G.....	: 451
Modo GAPDH	.....C.....C.....G.....C.....G.....T.....C.....G.....G.....C.....	: 601
Phci GAPDH	ATATCAAGAAAGTGGTGAAGGAAGCATCAGAAGGACCC TTGAAGGGCATCTTGGGCTACACAGAGGACC - - - - -	: 549
Saha GAPDH	.....C.....C.....G.....T.....A.....AGGTTGTATCC	: 880
Maeu GAPDH	.....C.G.....G.....AGGTTGTGTCC	: 531
Modo GAPDH	.....C.....G.....C.....G.....G.....G.....A.....A.....AGGTTGTATCC	: 681